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ABSTRACT

A 2-year study examined the use of the General Educational Development (GED) credential and its use in Wisconsin. Reading scores were located for GED holders applying to the University of Wisconsin-Milwaukee and the Milwaukee Area Technical College (MATC) and for persons on general assistance (welfare) in Milwaukee County. In all cases, there were GED holders with high school and above reading levels as well as substantial numbers who could not read at a high school level. A review of the performance of all GED holders who entered the 13 universities of the University of Wisconsin system found that GED holders had serious retention problems and few graduated. The performance and graduation rate of GED holders at MATC were similar to those of high school dropouts. Admissions officers at postsecondary institutions were usually satisfied with the preparation of GED holders who met other requirements. A survey of Wisconsin employers indicates that the GED credential is well received and considered by most to be equivalent to a high school diploma. Six changes in GED policy were recommended, including raising the minimum age for testing to 18.5 years, requiring GED applicants to demonstrate 10th-grade reading and mathematics skills, and developing a "second chance" diploma for high school noncompleters. (YLB)

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# RESEARCH ON THE GED CREDENTIAL AND ITS USE IN WISCONSIN

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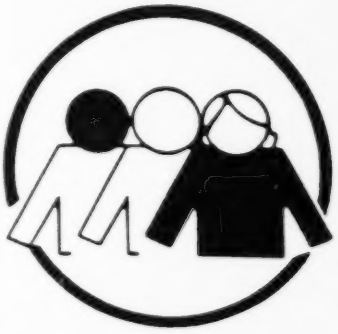

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# RESEARCH ON THE GED CREDENTIAL

# AND ITS USE IN WISCONSIN

by John Pawasarat
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Prepared by the University of Wisconsin-Milwaukee
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August, 1986

## RESEARCH FINDINGS

1. Since 1978 when an easier version of the GED Tests was first used, it has been possible for students with 6th grade reading levels to pass the GED Tests. (See pages 4-7.)

2. In mid-1981 the GED Testing Service began allowing GED examinees additional time to complete two of the five GED Tests. No norming studies were conducted of graduating high school seniors to determine their performance under the new time limits and the GED Tests have been conducted without norming standards since that date. (page 8.)

3. The U.S. Department of Defense, which originally developed the GED Tests for use by returning war veterans, no longer accepts the GED credential as equivalent to the high school diploma. Their extensive research found that GED holders performed similarly to high school non-completers and had about double the attrition rates of high school graduates. (pages 16-17.) At the same time the U.S. Department of Labor uses the GED as a measure of positive termination for Job Training Partnership Act funding and the U.S. Department of Education uses the GED to measure success for a portion of Adult Basic Education dollars. (pages 9-10.)

4. The Employment & Training Institute looked at the performance of all 2,896 GED holders who enrolled at the University of Wisconsin's thirteen four-year campuses from Fall, 1979 through Fall, 1984. While some GED holders were successful, as a group GED holders had staggering retention rates. For example, only 4% of the 294 new freshmen enrolled in 1979-80 had earned college degrees by Spring, 1985, and 84% had left school without graduating. Of the 1,982 GED holders in the study who left college before graduation, 35% had earned no credits, and 85% did not reach their sophomore year. (page 11.)

5. At the University of Wisconsin-Milwaukee the performance of 538 GED holders was compared with that of 12,146 high school graduates enrolled from 1978-1982. In each measure of comparison (retention rates, mean grade point averages, mean number of credits earned), the GED holders as a group performed worse than high school graduates including those from the lowest 20% of their high school class. (Page 12.) Only at UW-Madison where about 10 GED holders and 4,500 high school graduates are enrolled each fall, did GED holders perform better than high school graduates from the lower half of their high schools class. (page 13.)

6. The performance of 10,498 GED holders enrolled at the Milwaukee Area Technical College was compared to that of high school graduates and high school non-completers accepted into programs. GED holders attempting to graduate in Associate of Applied Science 2-year degree programs had attrition rates similar to those of high school non-completers and usually well below the attrition rates for high school graduates. GED holders attempting to graduate in one-year diploma programs have attrition rates similar to high school dropouts and older high schools graduates, but worse than the rates for recent high school graduates. (pages 13-14.)

7. A survey of 2,253 Wisconsin employers found that the GED credential is still well received by employers and considered by most to be equivalent to a high school diploma. Construction trades surveyed in the Milwaukee area indicate that they accept the GED holder for apprenticeship programs (except the electricians) but most also require applicants to demonstrate a 10th-11th grade reading level. (pp. 16, 18.)

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# I. INTRODUCTION

In Wisconsin thirty percent of adults have not completed high school. Employment studies have documented that high school dropouts represent the highest incidence of persons unemployed under normal economic circumstances. The problem is particularly acute for young people. A recent study by the Bureau of Labor Statistics found that one in four dropouts (ages 16 to 24) was unemployed, compared with one in ten high school graduates.

Several options are currently available to high school non-completers who want to earn a high school credential. Some adults return to their high school and complete the courses necessary for a high school diploma. Several VTAE districts offer adult high school diplomas. The Waukesha County Technical Institute also offers an External High School Diploma, which allows adults to complete a series of assessment exercises and demonstrate life skill competencies.

By far the vast majority of high school non-completers in Wisconsin earn a high school credential by passing the General Educational Development (GED) Tests. The tests are administered under requirements established by the GED Testing Service and the state Department of Public Instruction. In Wisconsin since 1960 over 100,000 persons have earned GED high school equivalency credentials.

In 1984 the Employment & Training Institute of the University of Wisconsin-Milwaukee embarked on a two-year study of the GED and its use in Wisconsin, at the request of State Superintendent Herbert J. Grover. The study explored the use of the GED credential by employers and postsecondary institutions in the state, the level of skills attained by GED holders, and the performance of GED holders in postsecondary education in the state.

Some of the findings of the research were positive, some were negative. The long-term goal of the research is to insure that high school equivalency credentials issued in Wisconsin reflect the high school graduation standards of the state and deliver to adults who seek them an equivalency credential worthy of its name. It is hoped that the recommendations made by the Employment & Training Institute to strengthen the requirements for high school equivalency certificates in Wisconsin will serve two purposes:

1. to insure that adults earning the credential have acquired the basic skills they will need for employment and possible further education.

2. to insure that the level of educational attainment reached by most of the Wisconsin residents with GED credentials continues to be recognized as equivalent.

## II. STUDY RECOMMENDATIONS

1. RAISE THE MINIMUM AGE FOR GED TESTING AND AWARD TO PERSONS 18-1/2 YEARS OLD AND OVER WHOSE CLASS HAS ALREADY GRADUATED FROM HIGH SCHOOL.

The majority of states, including Wisconsin, have taken actions leading to increased academic standards required for high school graduation. One result of the increase in the number of high school credits required for graduation may be higher dropout rates. To date, many schools have been permitted to use the GED for the population of students unlikely to graduate, substituting classes in how to pass the GED test for the regular course offerings of a high school curriculum.

Increasing the age for GED testing to 18-1/2 would place Wisconsin's GED policy in line with those of our midwestern neighbors and encourage youth to stay in high school.

2. REQUIRE GED APPLICANTS TO DEMONSTRATE 10TH GRADE READING AND MATH LEVELS PRIOR TO TAKING THE GED TEST.

Publication of the GED practice tests in 1978 in combination with the easier version of the GED tests has focused instruction in adult basic education (ABE) and high school GED programs on passing the test, often at minimum levels. Students with as low as a fifth grade reading level can pass the present GED tests with the proper preparation in specific test taking techniques needed for the GED tests.

The curriculum for many high school non-completers has been relegated to "test prep" rather than skill instruction in specific academic areas. This recommendation would require programs offering GED preparation to change their curricula to stress reading, writing and math to at least the 10.0 grade level and guarantee that GED certificate holders can read on a high school level.

3. UNTIL THE GED TESTS ARE NORMED SPECIFICALLY WITH WISCONSIN'S GRADUATING SENIORS, RAISE STANDARDS TO PASS THE GED TO A 45 MINIMUM ON EACH SUBTEST AND REQUIRE A TOTAL SCORE OF 250.

Presently, GED examinees in Wisconsin must pass five multiple choice tests (in reading, social studies, science, writing and math) with a 35 minimum score and a total score of 225. The GED Testing Service recommends that minimum score requirements be set at a level that can be passed by 70% of high school graduating seniors (and failed by 30% of seniors). 69% of Canadian seniors and 68% of Oregon's seniors passed the GED, using a passing score of 45 on each test. (In comparison, only 49% of the U.S. national norm group could pass the test with a 45 on each test.) It is likely that Wisconsin has more in common with the norming groups in Canada and Oregon than the U.S. national norm group. (In 1984 Wisconsin ranked first in ACT scores in the nation, Oregon ranked first in SAT scores.)

Higher standards are also required on the current GED test because of the policy in 1981 of the GED Testing Service to increase the time allowed for the math test by 50% and the writing test by 25% without renorming the GED for high school seniors (who were given shorter amounts of time).

4. REQUIRE GED APPLICANTS TO SIGN A "TRUTH IN TESTING" FORM PRIOR TO GED PREPARATION AND TESTING.

The GED Testing Service prohibits GED holders from retesting to raise their GED scores. Students who study to pass the GED as preparation for post-secondary education should be aware that two University of Wisconsin schools (Madison and Milwaukee), seven private colleges and two VTAE districts require GED scores above passing for some or all of their programs. As many as two-thirds of Wisconsin GED completers indicate that they take the GED for purposes of going on for further education.

5. REQUIRE GED APPLICANTS TO GO THROUGH CAREER COUNSELING PRIOR TO TAKING THE GED.

Staggering failure rates for GED students in the University of Wisconsin system suggest that more than a GED score needs to be considered when discussing education plans with high school non-completers. Course requirements, appropriate reading and math levels, and study habits are critical for success in postsecondary education.

Students who drop out of high school and then shortly after attempt university level work have tremendous odds against them. Students who are considering the GED especially at a younger age (17-19) ought to be informed of the importance of high school completion.

6. DEVELOP A "SECOND CHANCE" DIPLOMA PROGRAM FOR HIGH SCHOOL NON-COMPLETERS.

At-risk students and non-credentialled adults need an alternative to the GED such as the adult high school diploma offered in California, the external high school program at Waukesha County Technical Institute, and other programs which more closely model the basic skills, life skill competencies, and "staying power" features of high school. For at-risk youth, a "second chance" diploma option may help keep students in school who previously had no hope of graduation. For older non-completers, the "second chance" diploma could be a natural outgrowth of the GOAL program, ABE curriculum, and adult high school.

## III. READING SKILLS OF GED HOLDERS

The Employment & Training Institute secured information on the reading skills of GED holders from three disparate sources: a study of General Assistance Program (welfare) recipients in Milwaukee County, applicants for VTAE programs at the Milwaukee Area Technical College, and applicants for admission to the University of Wisconsin-Milwaukee. In all cases, there were GED holders with high school (and above) reading levels. However, there were also substantial numbers of GED holders who could not read at a high school level.

### General Assistance Recipients

In Summer of 1985, the Urban Research Center of the University of Wisconsin-Milwaukee conducted a demographic study for Milwaukee County of 1,983 persons on General Assistance (welfare) who were involved in the Work Relief Program. The group included 172 GED holders, 1,107 high school non-completers, and 692 high school graduates.

One-hundred sixty-six GED holders were given the Wide Range Achievement Tests (WRAT), whose results are reported in grade levels. Of the 166 persons tested, 107 read at below a 9th grade level and 20 read at a 6th grade level or below.

GED HOLDERS ON GENERAL ASSISTANCE TESTED IN READING

MILWAUKEE COUNTY: SUMMER, 1985.

| Reading Level on WRAT Test | Number of GED Holders | Percent of Group | Cumulative Percent |
|---|---|---|---|
| 2nd - 5th grade | 15 | 9.0% | 9.0% |
| 6.0 - 6.9 grade | 5 | 3.0 | 12.0 |
| 7.0 - 7.9 grade | 50 | 30.1 | 42.1 |
| 8.0 - 8.9 grade | 37 | 22.3 | 64.4 |
| 9.0 - 9.9 grade | 19 | 11.5 | 75.9 |
| 10.0 and above | 40 | 24.1 | 100.0 |
| TOTAL # | 166 | 100.0% | |

# Six persons refused to take the test.

## Applicants to the University of Wisconsin-Milwaukee

The University of Wisconsin-Milwaukee (UWM) made available a file of applicants (including GED holders) who were required to take a Nelson-Denny Reading Test prior to their admission or as a condition for acceptance to the Department of Educational Opportunity. GED holders were tested if they had been out of school for several years or if their GED scores were below 265. The records were for the time period from 1979 through December, 1984.

Skill levels for this special population of GED holders, as measured by the Nelson-Denny Test, ranged from below a 6th grade level (the lowest possible score) to reading levels of 15.0 and above (the highest possible score). The test file revealed a marked change in reading scores for students who earned their credentials before and after January, 1978 -- the date of the GED test revision.

All GED holders earning their certificates prior to 1978 posted Nelson-Denny scores of 9th grade (9.3) or better. GED holders who earned their certificates under the new form of the GED test initiated in 1978 included persons who tested at a 6th grade reading level or below. In fact, 56 students (23% of the group) tested had below a 9th grade reading level, as measured by the Nelson-Denny Test. (See Table, p. 6.)

## Applicants to the Milwaukee Area Technical College

A similar pattern was found among applicants to programs at the Milwaukee Area Technical College. Their test file included applicants tested from 1978 through mid-December, 1984. All students were required to take reading tests prior to admission to certain health programs at MATC. In addition, GED holders with total scores below 250 (260 for certain health programs) are required to take reading tests in order to demonstrate their ability to handle specific programs.

Only 4 of the 50 GED holders who earned their GED credential prior to 1978 had reading levels below the 9th grade, as measured by the Nelson-Denny or Nelson Reading Tests. However, 82 GED holders (39% of the group) who earned their GED credential in 1978 or after had scores below a 9th grade level, and 35 had reading levels of 6th grade or below. (See Table, p. 7.)

NELSON-DENNY READING TEST SCORES FOR GED HOLDERS APPLYING TO

THE UNIVERSITY OF WISCONSIN-MILWAUKEE: 1979 - 1984

| Reading Level on Nelson-Denny Test | Students Earning GED Credential Before 1978: | | | Students Earning GED Credential In 1978 or After: | | |
|---|---|---|---|---|---|---|
| | Number | Percent of Group | Cumulative Percent | Number | Percent of Group | Cumulative Percent |
| 6th grade or below | -- | -- | -- | 20 | 8.4% | 8.4% |
| 7.0 - 7.9 grade | -- | -- | -- | 10 | 4.2 | 12.6 |
| 8.0 - 8.0 grade | -- | -- | -- | 26 | 10.9 | 23.5 |
| 9.0 - 9.9 grade | 7 | 11.1% | 11.1% | 31 | 13.0 | 36.5 |
| 10.0 - 10.9 grade | 5 | 7.9 | 19.0 | 21 | 8.8 | 45.3 |
| 11.0 - 11.9 grade | 7 | 11.1 | 30.1 | 26 | 10.9 | 56.3 |
| 12.0 - 12.9 grade | 11 | 17.5 | 47.6 | 30 | 12.6 | 69.0 |
| 13.0 - 13.9 grade | 16 | 25.4 | 73.0 | 34 | 14.3 | 83.1 |
| 14.0 - 14.9 grade | 9 | 14.3 | 87.3 | 22 | 9.3 | 92.4 |
| 15.0 and above | 8 | 12.7 | 100.0% | 18 | 7.6 | 100.0% |
| TOTAL | 63 | 100.0% | | 238 | 100.0% | |

GED holders were required to take the Nelson-Denny Reading Test if their total GED score was below 265, they had been out of school for several years, or as a condition for acceptance in the Department of Educational Opportunity. These records are for the time period from 1979 through December, 1984.

NELSON AND NELSON-DENNY READING TEST SCORES FOR GED HOLDERS APPLYING TO MILWAUKEE AREA TECHNICAL COLLEGE PROGRAMS: 1978 - 1984

| Reading Level on Nelson-Denny Test | Students Earning GED Credential Before 1978: | | | Students Earning GED Credential in 1978 or After: | | |
|---|---|---|---|---|---|---|
| | Number | Percent of group | Cumulative Percent | Number | Percent of group | Cumulative Percent |
| 6th grade or below | 2 | 4.0% | 4.0% | 35 | 16.7% | 16.7% |
| 7.0 - 7.9 grade | 2 | 4.0 | 8.0 | 19 | 9.1 | 25.8 |
| 8.0 - 8.9 grade | -- | -- | 8.0 | 28 | 13.4 | 39.2 |
| 9.0 - 9.9 grade | 8 | 16.0 | 24.0 | 28 | 13.4 | 52.6 |
| 10.0 - 10.9 grade | 7 | 14.0 | 38.0 | 35 | 16.7 | 69.3 |
| 11.0 - 11.9 grade | 9 | 18.0 | 56.0 | 15 | 7.2 | 76.5 |
| 12.0 - 12.9 grade | 5 | 10.0 | 66.0 | 12 | 5.8 | 82.3 |
| 13.0 - 13.9 grade | 9 | 18.0 | 84.0 | 18 | 8.6 | 90.9 |
| 14.0 - 14.9 grade | 4 | 8.0 | 92.0 | 8 | 3.8 | 94.7 |
| 15.0 - 15.9 grade | 2 | 4.0 | 96.0 | 4 | 1.9 | 96.6 |
| 16.0 and above | 2 | 4.0 | 100.0% | 7 | 3.4 | 100.0% |
| TOTAL | 50 | 100.0% | | 209 | 100.0% | |

All students were required to take reading tests prior to admission to certain health programs at MATC. In addition, GED holders with total scores below 250 (260 for certain health programs) are required to take reading tests in order to demonstrate their ability to handle specific programs. The GED holders were tested from 1978 through mid-December, 1984.

What Happened to the Reading Level Standards

Establishing the level of academic skills required for equivalency certificate examinees is a difficult task. Crucial for granting equivalency is a passing score on multiple choice tests comparable to what high school graduates would achieve. However, if the scores of some GED examinees are very low and some high school graduates score just as low, aren't the GED examinees performing as well as their high school counterparts? The standard set by the American Council on Education for the GED is clear. They expect GED examinees to perform at least as well as 70% of high school graduating seniors. The goal of setting the level of performance at a score that 70% of high school seniors can pass (and 30% fail) is to insure that the equivalency credential has integrity without being unduly demanding of the GED candidate.

Generally, standardized reading tests would indicate that a 10th-11th grade reading level is achieved by at least 70% of high school seniors. On the Nelson-Denny Reading Tests, 70% of the high school norm group scored at the 11th grade level on reading comprehension. On the Test of Adult Basic Eduction (TABE) 70% of high school seniors achieved a reading level of 10th grade.

Why have reading levels dropped among some persons earning GED credentials? Several factors may have influenced a decline in reading scores among some of the persons earning GED certificates in 1978 and after:

1. The 1978 version of the GED Test was shortened, the amount of reading was reduced on the science and social studies tests, the math questions were worded in practical problems rather than theoretical or computational problems, and the test language was designed to be understood by 9th graders.

2. Along with the 1978 version of the GED Tests, an Official GED "Practice Test" was published by the GED Testing Service, enabling adult educators to more easily predict the precise point in the instructional process when the students could pass the GED tests.

3. The high school seniors in the norming group for the 1978 version of the GED tests scored considerably below the level of earlier norming groups. A renorming of high school seniors in 1980 showed even further declines, to the point where the number of correct answers that would be expected if a candidate were to guess on all the questions was alarmingly close to the norms (at which 70% of seniors passed and 30% failed). As a result, the GED Testing Service recommended raising the minimum scores required to reduce the distance between guessing and passing.

4. Since 1981 the GED Testing Service has allowed GED examinees an additional half hour (from 60 minutes to 90 minutes) on the math test and an additional 15 minutes (from 60 to 75 minutes) on the writing test without renorming the tests on the high school senior sample group.

The time expended in preparing for the GED tests varies widely. A national survey by the GED Testing Service in 1980 found that the typical GED examinee spent 20 hours preparing for the tests. 15% of the respondents spent no time preparing, and only 11% reported spending more than 100 hours in preparation. (Malizio and Whitney, 1981) A survey of 55 GED holders tested at the Fox Valley Technical Institute exam center in 1979, 1981 and 1983 found that 24% of the GED holders had spent no time preparing for the test, 35% had spent 1-20 hours, 25% spent 20-60 hours, and 16% spent more than 60 hours. (FVTI, 1985)

## IV. THE FEDERAL GOVERNMENT'S ROLE IN DEVELOPING AND CHANGING THE GED CREDENTIAL

It is significant that the United States Armed Forces, which originally designed the GED Test and encouraged its use, no longer accepts the GED credential as equivalent to a high school diploma. (See pp. 16-17.) At the same time, the U. S. Department of Labor promotes the use of the GED as a measure of positive termination for job training programs, and adult basic education dollars are linked in part to GED completion rates.

### Phase 1: A Program for Veterans

The Tests of General Educational Development (GED tests) were developed in 1942 by the United Sates Armed Forces Institute (USAFI) to allow war veterans to continue their education as civilians without having to return to the high school classroom. The credential could be presented to educational institutions and employers who required high school graduation standards. A major study in the 1950's validated the use of the GED tests for college admissions. (Tyler, 1956).

Several features were built into the tests battery to facilitate their use across the country. Multiple choice questions were used exclusively so that the tests could be administered and scored by people with minimal training. National norms were developed so that tests results would be comparable around the country. The exams were made as short as possible and simple in organization so that the results could be easily understood and interpreted. The tests were also designed to measure the long-term outcomes of a general high school education rather than specific facts learned in the classroom so that the out-of-school knowledge acquired by the war veteran could be measured.

The Veterans Testing Service administered the GED Tests in the years following World War II. In 1947 non-veterans were allowed to take the GED tests for the first time. By 1959 the number of non-veteran adults tested exceeded the number of veterans and in 1963 the Veterans Testing Service was renamed the General Educational Development Testing Service.

Phase 2: Federal Programs Expand Use of the GED

The emergence of state and federal supported adult education and job training programs led to a tremendous growth in the number of non-veteran adult participants in the GED testing programs. In 1965 the U. S. Congress provided funds for the establishment of adult basic education (ABE) programs to help persons 18 years of age and older with less than a grade school education. In 1966 the age limit for enrollment in ABE programs was dropped to 16 years of age. Pressure from these program operators on the GED Testing Service resulted in a lowering of the age for the GED from 21 to 16.

During the same time, the federal Manpower Training and Development Act (and later CETA) was also funding the education of adults in basic education as well as GED preparation. The impact of federal funding requirements for ABE, MDTA and CETA was particularly strong. One way to measure client improvement for federally funded programs was to administer pre- and post-tests using standardized reading the math tests. Improvement was shown in gains per hours of instruction. Improving a person's reading level from a 3.5 grade equivalent to a 5.6 grade equivalent was not as easily understood by legislators as earning a high school diploma via the GED. Increasingly, the GED certificate became the measure of "success" in funding formulas.

Phase 3: Weakening of the Test

Use of the GED as a measure of success in federal programs resulted in dramatic increases in GED testing volume, which in turn resulted in pressure on the American Council on Education for changes in the GED testing program. Increased volume meant increased costs for testing and preparation. ACE hired the Educational Testing Service (ETS) to design the new GED tests. According to ETS, the test was modified as follows.

1. The time required was shortened from ten hours (examinees could take more time if necessary) to a six-hour test.

2. The amount of reading was reduced on the Science and Social Studies tests.

3. The GED program had received complaints that too much higher level mathematics was being required in the GED tests. The new tests were designed to continue to include a small number of higher level math items, couched in practical terminology rather than theoretical or computational problems.

4. The tests were written in language that could be understood by 9th grade students. In fact, notes ETS, the new GED tests were found to be only slightly difficult for grade 9 students, with the middle difficulty for all five tests in the battery occurring at about grade 10, or a little higher.

Along with the current 1978 version of the GED tests, the Official GED Practice Tests were published by the American Council on Education. These tests were designed "to help candidates determine their readiness to take the full-length GED tests." With the introduction of the Practice Tests, adult educators could more easily predict the level of skill required to pass the GED. No longer did teachers have to rely on standardized reading tests to gauge readiness.

## V. THE PERFORMANCE OF GED HOLDERS AT THE UNIVERSITY OF WISCONSIN

Many factors contribute to success in college. Some GED holders are academically unprepared for college, particularly those with low reading levels. "Too often," observed the director of admissions for UW-Green Bay, "passing the GED is equated by students as possessing the same skills as a student completing a full four years of high school. There are usually significant gaps in ability and preparedness." Many GED holders with academic skills necessary for college may not succeed for other reasons. For some, the presssures of family responsibilities, work and social problems may limit the time and energy they can devote to their studies. For others, poor study habits and lack of perseverance may make it difficult to handle college courses as well as traditional high school graduates.

One portion of the GED study reviewed the performance of all GED holders who entered the thirteen universities of the University of Wisconsin from Fall, 1979 through Fall, 1984. The research found that GED holders had serious retention problems, and few graduated.

1. During the study period, over 145,000 new freshmen enrolled in the University of Wisconsin 4-year schools. GED holders made up 2,896 of these students, or 2% of all new students enrolled.

2. In all schools there were GED holders who performed well. Some students earned semester honors, 42 students graduated, and many remained in good standing throughout their period of enrollment.

3. Retention was a serious problem for GED holders at all University of Wisconsin schools. Only 4% of the 394 new freshmen enrolled in 1979-80 had earned college degrees by Spring, 1985, and 84% had left school without graduating. Even the new freshmen of 1983-84 had a dropout rate of 62% within one year of beginning school.

4. Of the 1,982 GED holders in the study who left college before graduation, 35% had earned no credits, and 85% did not reach their sophomore year (25 credits). Only 4% reached junior year status (54 credits).

5. Nearly one-fourth of the GED holders were required to take remedial math courses (at full tuition, but no or reduced college credit). Only half of these students passed their first remedial course. One-fifth of the GED holders were required to take remedial English courses, and 73% passed their first remedial course.

The American Council on Education recommends that college admissions officers use total GED scores to separate GED holders into groups similar to high school graduates by rank in class. GED holders with a total score of 250 or above are to be treated like high school graduates from the upper half of their high school class. The Wisconsin research suggests the serious limitations of this approach.

Correlations between GED test scores and college grades, while statistically significant, are not particularly helpful. The correlation between GED total scores (which ACE recommends using) and first semester grades was .2300, at a .01 level of significance. (That is, about 5% of the student's first semester GPA could be explained by the GED scores.)

UW-Milwaukee compared students' records for 538 GED holders and 12,146 high school graduates who first enrolled between Fall, 1978 and Fall, 1982. Experience was compared for each student's first four semesters. In each measure of comparison (retention rates, mean grade point average, mean number of credits earned), GED holders as a group performed worse than high school graduates. High school graduates were also compared by rank in high school class: upper 50%, 40-49%, 30-39%, 20-29%, lowest 20%. The GED holders performed worse than high school graduates from every group including graduates from the lowest 20% of their high school class.

COMPARISON OF GED HOLDERS AND HIGH SCHOOL GRADUATES ENROLLED AT UW-MILWAUKEE: 1978-1982

| | High School Graduates by Rank in Class | | | | | GED |
|---|---|---|---|---|---|---|
| | Upper 50% | 40-49% | 30-39% | 20-29% | 1-19% | Holders |
| No. of Students Enrolled | 9,042 | 981 | 804 | 586 | 733 | 538 |
| Percent of Students Completing First Four Semesters | 62% | 54% | 48% | 46% | 41% | 31% |
| Cumulative GPA at End of 4th Semester (or at time of leaving) | 2.69 | 2.32 | 2.18 | 2.15 | 1.99 | 1.98 |
| Mean No. of Credits Earned By End of 4th Semester | 49 | 39 | 34 | 33 | 28 | 26 |
| Mean No. of Semesters Completed (out of 4) | 4 | 3 | 3 | 3 | 3 | 2 |

UW-Madison is the only campus where GED holders are carefully screened based not only on high GED scores but on high school records (algebra and geometry are required), other test scores, and personal interviews. During the fall semesters from 1979 through 1983, 51 GED holders and 22,655 high school graduates were admitted. The first semester grades of GED holders were below the average for high school graduates. However, the GED holders out-performed those 550 high school graduates accepted from the lower half of their high school class.

An academic status summary was available comparing GED holders at the end of their first semester to UW-Madison freshmen as a whole. It suggested retention problems even among the GED holders selected for UW-Madison. Only 73% of the GED holders registerd for second semester, compared to a 95% average for the school as a whole.

## VI. THE PERFORMANCE OF GED HOLDERS AT MILWAUKEE AREA TECHNICAL COLLEGE

At the Milwaukee Area Technical College, it was possible to compare the performance of GED holders to high school non-completers as well as high school graduates. The findings, while disappointing, mirrored the extensive national research conducted by the U.S. Department of Defense.

At MATC, high school non-completers were allowed in VTAE programs when they could demonstrate (usually through standardized tests) the ability to handle the coursework. GED holders with total scores below 250 (or 260 for certain health programs) along with high school graduates with below a 2.00 GPA (2.50 for certain health programs) were required to take additional tests for certain programs.

This portion of the study reviewed the performance of all 10,498 GED holders who entered MATC from 1978 to 1985.

1. 853 GED holders graduated from the Milwaukee Area Technical College between 1978 and 1985, out of a total of 17,625 graduates. GED holders made up 1.6% of the MATC graduates in 1978 and increased to 7% of the graduates in 1985.

2. 868 high school non-completers (dropouts) graduated from MATC during the same period.

3. GED holders attempting to graduate in Associate of Applied Science degree programs have attrition rates similar to high school non-completers and usually well below the attrition rates for high school graduates.

- 1,578 GED holders attempted to graduate in Associate of Applied Science programs taking seven or more credits in their first semester at MATC, 1980-1983. By 1985, 130, or 8%, had graduated.

- 248 high school non-completers attempted to graduate in A.A.S. programs taking seven or more credits in their first semster at MATC, 1980-1983. 24, or 10% graduated.

- 9,500 high school graduates attempted to graduate in A.A.S. programs taking seven or more credits in their first semester, 1980-1983. 2,867, or 30%, graduated.

4. GED holders attempting to graduate in one-year diploma programs have attrition rates similar to high school dropouts and older high school graudates, but worse than the rates for recent high school graduates.

-501 GED holders attempted to graduate from one-year diploma programs taking seven or more credits in their first semseter at MATC, 1980-1983. 188, or 38%, graduated.

-827 high school non-completers attempted to graduate from one-year diploma programs. 1,258, or 31%, graduated.

3,300 high school graduates attempted to graduate from one-year diploma programs. 1,954, or 59%, graduated.

5. Overall failure rates for students enrolled in degree, diploma or certificate programs who have <u>not</u> graduated from MATC are similar for GED holders and dropouts and much worse than for high school graduates.

-5,479 GED holders enrolled in degree, diploma or certificate programs from 1979 to 1984 but did not graduate. Of that number, 2,329 (43%) earned <u>no</u> credits in their first semester enrolled at MATC. 1,870 (34%) earned <u>no</u> credits in <u>any</u> semester at MATC from 1979 to 1984.

- High school non-completers who did not graduate from MATC had similar percentages of students earning <u>no</u> credits. The failure rates were better for high school graduates.

6. GED test scores were identified for 2,778 of the GED holders who took courses toward a degree, diploma or certificate during the study period. Graduation rates differ only slightly for students in different GED tests score ranges.

## VII. THE ACCEPTANCE OF THE GED BY POST-SECONDARY INSTITUTIONS

The Employment & Training Institute reviewed the admissions policies of all baccalaureate-granting institutions and VTAE districts in Wisconsin. Admission officers were surveyed to determine whether they accepted GED holders, whether they placed any restrictions on the students' course loads, and their assessment of the readiness of their GED applicants for post-secondary education. All institutions responded.

1. All four-year colleges and universitites in Wisconsin except one (a private religious school) accept GED holders into their baccalaureate-granting programs. All VTAE (vocational, technical and adult education) districts in the state allow GED holders to enter their associate degree, certificate and diploma programs.

2. Eight four-year colleges and universities in the state require applicants with GED certificates to have total GED scores above passing (225). These include the two largest universities in the Wisconsin system -- Milwaukee (265 score required) and Madison (250 required, but few students enrolled with below a 290 score). GED holders with lower scores are required to take additional tests to demonstrate their ability to handle college work. Six private schools require GED scores above passing: Carthage College and Marquette University (250), Milwaukee School of Engineering (265), and Lakeland, Ripon and St. Norbert Colleges (50 on each of the five GED subtests).

3. Two University of Wisconsin schools (River Falls and LaCrosse) have adopted policies requiring all GED holders to enter their institutions on probation.

4. The thirteen UW Center's two-year campuses require all GED holders to follow the same procedures as high school graduates in the lowest quartile of their class. In many cases the first semester caseload is restricted to 12 credits.

5. When asked if GED holders were ready for post-secondary education at their institution, most UW admissions officers indicated that older GED holders were usually ready, given their motivation and work experience, but younger GED holders often had significant gaps in ability and preparedness for college.

6. Admissions officers from the 20 four-year private colleges and universities were usually satisfied with the preparation of GED holders who met their other admission requirements (usually ACT or SAT tests). These schools estimated that about 200 GED holders are enrolled in their institutions, less than one percent of their total student bodies.

7. Requirements for admission to each of the 16 VTAE district's associate degree, certificate and diploma programs are summarized in a separate report. Two VTAE districts (Milaukee and Western) require GED scores above passing for admission to certain programs, many districts require specific high school level courses for programs, and a growing number of districts require reading skills (e.g., 8th, 10th or 11th grade) for some program areas.

## VIII. SUMMARY OF EMPLOYMENT FINDINGS

### How Wisconsin Employers View the GED

2,253 Wisconsin employers from a randomly selected sample of 6,163 companies responded to the Department of Public Instruction's employer survey. Respondents indicated that the GED credential is well received by employers and considered by most to be equivalent to a high school diploma.

- Familiarity with the GED credential ranged from 80 percent of employers with less than 10 fulltime workers to 100 percent of the companies with 250 or more employees.

- 78 percent of employers responding said that they consider the GED certificate as acceptable as a high school diploma, 14 percent said they do not consider the GED certiticate as acceptable, and 8 percent checked "don't know."

- 48 percent of respondents hiring recent high school graduates said that they prefer the high school diploma when hiring, and 52 percent said they consider the high school diploma and the GED certificate equal. 6 employers (0.2% of the total) preferred the GED certificate over the high school diploma.

- Companies were asked to estimate the number of new employees hired last year who were high school graduates, GED holders and high schol dropouts. GED holders made up 8 percent of all reported new persons hired; high school graduates, 88 percent; and high school dropouts, 4 percent. (GED certificates comprise about 15 percent of high school credentials issued in Wisconsin each year.)

- The median wage reported for new GED holders last year was $4.67 per hour. 64 percent of the wages paid were under $5.00 per hour. The highest average wages were paid in the construction industry. The lowest wages (averaging the minimum wage of $3.35) were paid in the recreation, food and lodging industries.

### How GED Holders Perform on the Job

The most extensive (and only detailed) research on the performance of GED holders on the job has been conducted by the U.S. Department of Defense. Their research has shown that GED holders in the military perform much worse than high school graduates. Dropout rates are double those of graduates and

similar to those of high school non-completers. The Human Resources Research Organization, which has studied this phenomenon for the military, postulates:

> "The attributes that enable a student to complete high school rather than drop out are perhaps the 'true' determinants of the individual's probability of fulfilling the first term of service. That is, perseverance, maturity, participation in group learning situations, tolerance of and adaptability to rules and regulations, determination, as well as other possible factors involved in completing high school--rather than whatever educational attainment is represented by the diploma--are probably the actual correlates of individual success in the military." (Lawrence, 1983.)

As a result, all four services require high school dropouts and GED holders to attain higher enlistment aptitude test scores than high school graduates on the Armed Forces Qualification (aptitude) Test.

UNITED STATES MILITARY ENLISTMENT REQUIREMENTS

BY SEX AND EDUCATIONAL LEVEL (for non-prior service)

| Branch of Service/ Educational Level | Armed Forces Qualification Test Percentile Score Required | |
|---|---|---|
| | Males | Females |
| ARMY | | |
| High school diploma graduate | 16 | 16 |
| GED holder | 31 | 31 |
| Non-high school graduate | 31 | 31 |
| NAVY | | |
| High school diploma graduate | 17 | 17 |
| GED holder or CPT | 31 | 31 |
| Non-high school graduate | 38 | 38 |
| MARINE CORPS | | |
| High school diploma graduate | 21 | 50 |
| Non-high school graduate (including GED holder) | 31 | not eligible |
| AIR FORCE | | |
| High school diploma graduate | 21 | 21 |
| GED holder | 50 | 50 |
| Non-high school graduate | 65 | 65 |

Source: Laurence (1983)

The Acceptance of the GED Certificate in Major Construction Apprenticeship Programs in the Greater Milwaukee Area

- The majority of construction apprenticeship programs in the Milwaukee area require applicants to perform at or above the 40th percentile on a battery of tests administered by the Milwaukee Area Technical College. The required scores on the reading tests is the equivalent of an 11th or 12th grade reading level.

- For GED applicants who pass the admissions tests, the GED credential is considered as acceptable as a high school diploma by 10 of the 13 apprenticeship committees. Four committees require GED holders to have completed at least two years of high school.

- When hiring applicants, eight prefer the high school diploma and four consider them equal. The electricians accept only high school graduates.

- GED holders made up 7 percent of new construction trade apprentices in the Milwaukee are in 1985.

Experience of GED Holders Applying for Entry-Level Positions with Milwaukee County

The Employment & Training Institute reviewed the applications, written test scores, and performance tests (where applicable) of 2,598 persons applying for three entry-level positions with the Milwaukee County government. Two factors limited the usefulness of the data obtained. Only 48 persons were hired for these positions. Because the positions paid considerably more than many private sectored companies, most applicants had considerable post-secondary education and training well above the level required for the positions.

- All five of the GED holders hired had post-secondary education. Of the 43 high school graduates hired, 31 had post-secondary education and 12 had no schooling beyond high school.

- GED holders made up 16 percent of the 2,598 applicants for the three positions analyzed (clerk typist I, clerk typist II, security officer). Fifteen percent of the persons making the eligibility lists were GED holders. Ten percent (5 persons) of the 48 new employees were GED holders.

- 31 percent of GED holders with no post-secondary training made the eligibility lists for the three positions, compared to 43 percent of high school graduates with no post-secondary training.

Appendix A.

PROPOSED "TRUTH IN TESTING" APPLICATION
APPLICATION TO TAKE THE GED TEST

Please read the following information before you begin preparation and testing for the GED.

Programs available to high school non-completers.

The GED is not a high school diploma. It is a series of five tests which measure your ability in the content areas of reading, writing, math, social studies and science. If you are interested in finishing your schooling or gaining the skills you need for employment, college or vocational training, call your high school counselor or VTAE admissions office or VTAE GOAL program before you decide to take the GED. A counselor can tell where you can take the classes you need to improve your skill and prepare for the GED.

If you would like more information about classes and choices available to you, call:

(Name of VTAE or high school counselor)
(address and phone)

Your GED score may make a big difference.

The Wisconsin GED Testing Program has rules about taking tests over again. Once a person takes any of the five GED tests and passes with at least a score of 35, they cannot take that test again.

Why is that important? Some higher education programs require more than minimum scores on the GED. For them, just passing isn't enough. In some cases, an average of 50 or 53 will be needed, not a minimum of 35 on each test. We urge you to prepare carefully in order to do your very best. A few years from now your plans may change and you will feel a need for higher scores. At that time, if you have already passed your test(s), you will not be able to retest.

Colleges and universities and vocational programs which require more than a minimum score on the GED include:

| School | Required Score |
|---|---|
| University of Wisconsin Madison | 250 * |
| University of Wisconsin Milwaukee | 265 |
| Milwaukee Area Technical College | |
| Associate Degree Programs | 250 * |
| Medical programs only | 265 * |
| Western Wisconsin Technical Institute | |
| Medical programs only | 275 |
| Carthage College | 250 |
| Marquette University | 250 |
| Milwaukee School of Engineering | 265 |
| Lakeland College | 50 on each subtest |
| Ripon College | 50 on each subtest |
| St. Norberts College | 50 on each subtest |

The average score of GED certificate holders enrolled in University of Wisconsin schools is 275.

* These institutions require that you also have passed specific high school courses.

New course requirements for high school students.

The State of Wisconsin has increased the number of credits and types of courses required for graduation from high school. While colleges, universities and technical schools accept GED students, they now specify or expect high school course work which is not measured on the GED. In order to prepare for college or technical school, talk to your counselor about course work which will be expected of you. Commonly required high school level courses not measured by the GED include: algebra, biology, chemistry, and geometry.

Some technical schools require 8th or 10th grade reading and math skills measured by a standardized test. To be sure you have skills to enter these programs, talk to your counselor about courses which can best meet your needs.

I have read this application.

==========

(Signature of Applicant)

Appendix B.

Proposal for a

"SECOND CHANCE" HIGH SCHOOL DIPLOMA PROGRAM

Objective: Re-enroll high school non-completers in school to earn a diploma which guarantees a level of skills necessary for further education and employment.

Definition: The State of Wisconsin High School Diploma Program offers a "second chance" at finishing high school. It is designed for adults, GED certificate holders, and at-risk youth who are so far behind in credits they cannot graduate with their class, but want the status a Wisconsin high school diploma offers.

A State of Wisconsin high school diploma insures that students are competent in the academic and life skills necessary for entry-level employment and further education.

This diploma can be issued by the local public school or the Department of Public Instruction, if the requirements detailed below are fulfilled.

Requirements:

- Adults must be at least 19 years of age and their class must have graduated from high school.
- At-risk youth must be at least 16 years of age, have the written approval of their parent or guardian, and be more than one year behind their age group in high school credits.
- Students must enroll in a state-approved "Second Chance" Diploma Program for a minimum of 2 semesters (180 days) at 20 hours a week, or 4 semesters and 10 hours per week.
- Students with below an 8th grade reading and math level must be provided remediation in basic skills during a majority of time spent in instruction.
- A "Second Chance" program must offer a full academic, life skill, and remedial curriculum and be approved by the Department of Public Instruction. Other activities may include occupational education, vocational exploration and support services related to the instructional program.
- The following student records shall be available for inspection by the Department of Public Instruction at each approved "Second Chance" Diploma Program: transcripts from previous schools, a record of remedial instruction with pre- and post-test scores, a record of counseling and support services, a record of all Wisconsin Pupil Assessment test scores, the original approval of a parent or guardian, and a record of classes attended, and grades.
- All students must take the Wisconsin Pupil Assessment Battery of Tests and demonstrate competence with a score on each test as high as that scored by 70% of Wisconsin high school seniors. Wisconsin Pupil Assessment Tests will include the following content areas: writing (narrative essays and job application letter), computation, geometry, educational reading, every day reading, consumer economics and job skills.

## PROPOSED CURRICULUM OBJECTIVES FOR "SECOND CHANCE" DIPLOMA PROGRAMS

These objectives are included in the Wisconsin Pupil Assessment Program. The instructional objectives of "Second Chance" Diploma Programs shall include, but not be limited to:

### Reading

Answer questions about factual information in a narrative selection.
Answer questions about factual information in an expository selection.
Answer questions about a poem.
Answer questions about the cause of events or actions in a passage.
Identify the main idea in a newspaper or magazine selection.
Identify the main idea in a poem.

Identify a generalization statement by making an inference from a passage.
Answer questions about implied facts in a newspaper or magazine selection.
Make an inference from a narrative selection.
Separate fact from opinion when reading a newspaper or magazine article, such as an editorial.
Identify bias in a newspaper or magazine selection.
Recognize appropriate information from operating instructions for an appliance.
Recognize appropriate information from a business letter.

Recognize appropriate information from a container label with instructions, warnings, or medical antidotes.
Recognize appropriate information from a library catalog card.
Recognize appropriate information from a dictionary page.
Recognize appropriate information from a voting ballot.
Recognize appropriate information from a compterized bill.
Recognize appropriate information from want ads or job descriptions.
Recognize appropriate comparative buying information from warranties, ratings, advertising, or container labels.

### Writing

Write a story based on a photograph (narrative essay).
Wite a job application letter.
Write a persuasive essay.

### Math

Solve items with earnings and savings.
Add/subtract whole numbers.
Add terminating decimals.
Read/interpret graphs, maps, tables.
Multiply/divide whole numbers.
Solve items related to purchases.
Multiply decimals with regrouping.
Subtract decimals with regrouping.
Solve items with basic living/traveling expenses.
Solve equivalent fractions.
Add/subtract like fractions.

## Math (continued)

Divide decimals with terminating quotients.
Percent-fraction-decimal equivalents.
Solve items with weight and/or volume.
Find percent one whole number is of another.
Add/subtract unlike fractions.
Multiply fractions.
Divide using fractions.
Solve items with length or area.
Find percent of a whole number.
Solve items with rates.

## Geometry

Identify solids, quadrilaterals, polygons.
Identify and classify points and sets of points.
Identify coordinates or points from a decription.
Find conclusions about similar triangles.
Identify figures with one line or plane of symmetry.
Identify one line of symmetry or image points.
Identify congruent angles, polygons, and corresponding parts.
Identify similar triangles, quadrilaterals, plane figures.

Find simple conclusion given size and shape.
Use ordered pairs to identify one or more points.
Apply similarity to real life situations.
Find conclusions about plane and solid figures.
Identify angles/relationships between points, lines, planes.
Find conclusions about congruent triangles, polygons.
Classify angles, triangles, quadrdilaterals, polygons.

## Government

The student shall understand the process and operation of elections.
The student shall recognize ways to participate in government.
The student shall understand the organization and operation of three branches of U.S. national government.
The student shall understand the organization and operation of Wisconsin state and local government.
The student shall understand inter-governmental relations.
The student shall understand the Bill of Rights, due process, and rule of law.
The student shall understand limited government, checks and balances, and separation of powers.

## Consumer Economics

Students should understand how the consumer can affect what is produced in the American economic system
Students should understand the concept of insurance in terms of financial planning and risk management (e.g., health, social, life, liability, and property insurance).
Students should understand the concept of credit, including types and costs.
Students should understand the benefits and risks of various types of savings and investments.

## Consumer Economics (continued)

Students shall evaluate alternative choices when given a set of circumstances relating to needs and want (e.g., food, clothing, shelter, transportation, recreation, etc.).
Students shall identify and be able to use a variety of sources of information about products and services (e.g., catalogs, consumer guides, institutions, yellow pages, newspapers, and personal contracts).
Students shall interpret and evaluate advertising (e.g., amount of real savings, appeal to pressure tactics, representation of products and savings, etc.).
Students shall be able to use information in selecting goods and services (e.g., packaging, labeling, guarantees, warranties, etc.).
Students shall identify a financial plan for spending and saving that is comparable with one's personal values, goals, and resources.

## Job Skills

Identify resources and procedures for seeking a job.
Define standard benefits and payroll structures.
Participate effectively in a job interview.
Identify proper work habits, attitudes and behavior.
Develop a career plan.
Use Labor Market information to find a job.

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